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A sample of 380 urban, suburban, and rural persons living in the Province of Santiago, the Dominican Republic, were interviewed to determine their attitudes toward education. A 15 statement attitude instrument, using a Likert response scale, was developed. The major findings of the study were that attitudes toward education were significantly related to place of residence, sex, social class, level of education, receivership of mass communication, and spatial mobility. It was concluded that although the sample exhibited some characteristics of a relatively modern society in attitudes toward education, the relationship between attitudes toward education and the other variables supported the classification of the Dominican Republic as a transitional society near the traditional end of the traditional-modern continuum. (TL)

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FACTORS AFFECTING ATTITUDINAL PATTERNS TOWARD EDUCATION IN THE DOMINICAN REPUBLIC

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INTRODUCTION

What influences and keeps a country technologically unsophisticated and underdeveloped in many respects? Social scientists have been searching for answers to this question for years. Obviously, there are multiple conditions involved, and literally hundreds of volumes have been produced concerning the varying aspects of these conditions. Considerable time has been spent trying to evaluate and determine the underlying phenomena that gave rise to the several "prosperous" nations on this globe.

Education is considered one of the most important of numerous variables that have been involved in stimulating the development of highly industrialized societies. The role of education is a necessary differentiating force in developing a modern industrial society with more complex and specialized tasks and roles required for its maintenance (1). In underdeveloped nations the typical individual lives in a village where there is little social differentiation. All the residents tend, with few exceptions, to follow the same pattern of activity. In such an environment it may be difficult to distinguish among personality, social, and cultural systems because of their common characteristics and rigid social control. Providing normal education for the people in these villages will produce the prerequisites for development of a greater tolerance of diversity and thus greater specialization needed for economic and social growth. However, for differentiation and development to occur in substantial amounts in an

underdeveloped country, the dominant norms which may impede organized change must first be changed (2). The attitudes of the people toward the norms that define the boundaries of their behavior either support, alter, or dissolve these norms.

Attitudes toward any number of phenomena could have been justifiably singled out for study. Education was chosen because it was felt that an understanding of the people's attitudes toward education might hasten the improvement of the educational system and in the long run implement change and development. Daniel Learner supports this feeling:

> Literacy is indeed the basic personal skill that underlies the whole modernizing sequence. With literacy, people acquire more than the single skill of reading. The very act of achieving distance and control over a formal language gives people access to the world of vicarious experience and trains them to use the complicated mechanism for empathy which is needed to cope with the world (3).

ORIENTATION

Traditional, Transitional, and Modern Societies

For this research it was theoretically useful to distinguish three ideal types of societies: traditional, transitional, and modern. Many examples of ideal types can be identified within the writings of past and present sociologists: Gemeinschaft and Gesellschaft of Toennies and Loomis, Weber's rational and traditional types, Sorokin's familistic and contractual, and the sacred and secular types of Becker (4).

To provide a definitive scheme for the societal types, traditional and modern, Rogers' formulation was utilized (5) and is summarized as follows:

TRADITIONAL	MODERN
1. Less developed or less complex technology; subsistence agriculture; cottage industries.	1. Developed technology with a complex division of labor; large factories; occupations more urban.
2. Literacy and education are at a relatively low level.	2. High value on science and education.
3. Individuals are localites rather than cosmopolites.	3. Cosmopolitan social relationships.
4. Lack of economic rationality.	4. Careful planning and economically rational decisions.
5. Lack of ability to empathize or see oneself in others' roles, particularly the roles of outsiders.	5. Ability to empathize and see oneself in the other fellows' roles.

The types described above are viewed as end points on a continuum of societies ranging from extreme traditional to extreme modern. Obviously, there are numerous stages of development between the two extremes, and this middle stage is designated the transitional type.

The Dominican Republic was categorized as a transitional society, but was placed near the traditional end of the continuum for the following reasons:

1. Subsistence agriculture was one of the most common occupations.
2. Very little usage of modern complex technology was found in agriculture, industry, or government.
3. Literacy and education were at a relatively low level.
4. Many individuals were spatially immobile, i.e. localites rather than cosmopolites.

The remaining characteristics that Rogers sets forth - lack of economic rationality and lack of ability to experience empathy or see oneself in the roles of others - were not directly observed. Even so, casual observation suggests that with respect to these two characteristics, the Dominican Republic was correctly placed near the traditional end of the continuum.

Preparation and Construction of the Questionnaire

Preparation of the questionnaire involved considerable investigation. Very little previous research pertinent to the proposed research had been carried out in the Dominican Republic. Consequently, attention was turned to various projects in other Latin American countries. Several questionnaires used for collection of data in the other Latin American countries were secured and reviewed. They are as follows: Centro latinoamericano de investigaciones en ciencas sociales, 1963 by Joseph Kahl (6); Bailadores: an Agro-Social Study of a Rural Venezuelan Region by Earl Jones (7); Some Aspects Relative to the Decision to Migrate and to the Urban Integration of Migrants in Marginal Populations of Greater Santiago, 1966 by Atal, Manuel, et. al. (8); Leadership in La Manga by Roy A. Clifford & Jorge Ramsay (9).

A list of 40 possible questions was submitted to various persons for their evaluation. A major concern was to develop questions applicable to Dominican culture. Persons who were asked to evaluate the questions included: Texas A&M University students from the Dominican Republic; fellow graduate students in the Department of Sociology, Texas A&M University;

Dr. Robert Havinghurst,* (10) and other departmental staff members. After the selection of preliminary questions, Dr. Jones and his bilingual staff,** translated it to Spanish. The questionnaire was then considered ready for the pretest.***

Attention was then turned to techniques that could be used for sampling the northern half of the Province of Santiago. Under the direction of Dr. H. O. Hartley, Director of the Institute of Statistics, Texas A&M University, the sampling design was fabricated with allowances made necessary by the absence of adequate population statistics.

The research team then traveled to the project site and began final preparation for the pretest. Conferences were held with several members of the USAID team, personnel at the Instituto Superior de Agricultura**** in Santiago, members of the Association for Development in Santiago, and private citizens. Training of interviewers was conducted by Dr. Earl Jones. The interview team consisted of eight graduates of the Instituto Superior de Agricultura and two students from Catholic University Madre y Maestra.

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*Dr. R. J. Havinghurst was a consultant for Programa de Education Interamericana and was on the Texas A&M University campus during early June, 1967.

**Special assistance was given by Ruth Cedillo and Mark Jones.

***See Appendix for a copy of the research instrument translated into English.

****ISA is an agricultural high school sponsored by the Ford Foundation and operated under the direction of the Association for Development, Santiago in cooperation with Texas A&M University.

Collection of Data

A statistically representative sample was taken from the 600 square mile area referred to as the northern half of the Province of Santiago. This area included Santiago, the second largest city in the Dominican Republic (approximately 100,000 population).

Thus samples from an urban area, a suburban area which was contiguous to the urban, and a vast rural area were drawn. The urban area of the city of Santiago proper was fairly easy to delimit. The suburban area was the most difficult to delimit as there were no clear-cut guidelines available. Cesar Garcia, Professor of Statistics at Catholic University in Santiago, who had been conducting research in the region concerning life styles, was very helpful in delimiting the suburban area. This area was chosen to include those places of residence that were spatially close to the city of Santiago where it was felt that the people frequently commuted to the city to work and carry on their life functions. The rural area, which comprised the larger sample area, encompassed those persons who were relatively isolated from larger towns. This included those persons living in small rural communities and those living in the sparsely populated countryside. The overall number of interviews from each of the three areas was proportional to the estimated population of those areas.

The male head of the house was interviewed if available; otherwise the person most suitable to answer the questions was interviewed. This included: male head of house, 115; wife of the head of the house, 215; and other family members, 50 for a grand total of 380 completed interviews.

Sampling Techniques

Within the urban area, a division was made to allow sampling from the three social classes: lower, middle, and upper. In the city there were six lower class barrios from which samples could be obtained. Three were selected from the six by the probability proportional to size technique. In each of the barrios selected, the city blocks were enumerated and with equiprobability selected to be sampled. Every fourth house on the appropriate blocks was selected as an interview site. When a house was vacant or no one home, the interviewer was instructed to back up one house; and if no one were home, then proceed to the next house. The blocks were randomly sampled in this manner until the proportional quota of interviews for that barrio was filled.

The city contained two large middle class areas approximately equal in size. One of these was selected by equiprobability for sampling and the city blocks within enumerated. Every fourth house on the randomly selected blocks was chosen as the site for an interview. The same alternative instructions, as outlined above, were given for a home that was unoccupied at the time of the interview. Interviews were conducted in the blocks in randomly selected order until the quota was filled.

The single upper class area in the city of Santiago was sampled by equiprobability selection of the blocks. The remaining procedures were the same as those for the middle class sampling.

For the suburban and rural areas, an aerial photo map was utilized.* All of the passable roads in both areas were divided into kilometer sections

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*The photo map was obtained from the Army Map Service, Corps of Engineers, U. S. Army, Washington, D. C. The scale of the map was 1:50,000, or one-quarter inches to one mile.

with the sections randomly numbered. Then, by the systematic random technique, areas were chosen and interviews carried out at each fourth house. To help eliminate a possible bias introduced by sampling along the roads, houses that were within one-half kilometer on either side of the road were included. This sampling procedure allowed interviews to be obtained from relatively isolated rural people as well as those living in small rural communities. Interviews were obtained from as many sections as necessary to fill the quota for that particular area, suburban or rural.

Sample Size

According to the 1960 national census, the total population of the Province of Santiago was 291,110 with 85,640 in the city of Santiago.* Other than these general population statistics, no other data were found that were of any help in sampling. It was estimated that about 190,000 people resided in the northern half of Santiago Province. Also, at the time of the research, it was estimated that about 90,000 people lived in the city of Santiago, with the remaining 100,000 in the rural and suburban area (55,000 rural and 45,000 suburban). These estimates were arrived at by the use of the aerial photo map, field observations, and the help of Cesar Garcia. It should be noted that for sampling purposes, mere educated estimates are considered sufficient as they are used to determine proportionally the number of samples to be taken from each area. The numbers of completed interviews from each area are as follows: rural, 107; suburban, 92; and urban, 181. The ratio of interviews taken was 1:500, and this ratio was maintained with minor variations for all the areas sampled.

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*Cuarto censo nacional de poblacion, 1960. National Office of Statistics, Santo Domingo, Dominican Republic.

Measurement of Attitudes Toward Education

An internal consistency scale (Likert) was chosen for the attitude measurement. This particular method actually combines a large number of scales into one measuring instrument as each statement with its response categories comprises a scale. This technique was chosen for its simplicity and versatility. The following criteria were observed while constructing the attitude statements: (1) the statements should be expressions of desired behavior, not statements of fact; (2) each statement should be clear, concise, and straightforward, using the simplest possible vocabulary; (3) the statements should be so worded that the modal reaction to some statements would be toward one end of the attitude continuum and to others more in the middle or toward the other end; (4) to avoid the tendency of stereotyped responses, several statements should be worded such that one end of the attitude continuum corresponds to the left or upper end of the reaction alternatives, and other statements worded such that the same end of the attitude continuum corresponds to the right or lower end of the reaction alternatives (11).

In keeping with the need to construct a valid scale, questions were included to measure the affective, cognitive, and behavioral components of attitude make-up. The final 15 statements were selected from a list of approximately 30 alternatives selected by the same group of judges or evaluators mentioned earlier.

An objective check, internal consistency, was applied to be sure the numerical values assigned to the reaction alternatives were correctly oriented (12). Also, the internal consistency check gave an indication of how

differentiating or what the discriminatory power (DP) of each of the statements were. This check was run to provide justification for selecting the final statements to be retained in the attitude scale, because a statement was of little value if it did not differentiate. The reactions of the group that constituted one extreme in the particular attitude being measured was compared with reactions of the group that constituted the other extreme. The top quarter and lowest quarter were compared, and the results are shown in Table 1. The discriminatory power of each statement was found by dividing the differences in the total scores of the higher and lower groups by N (93 for this case). If the resulting numbers were greater than .5, then the statement was considered to be adequately differentiating (13). As can be seen, all of the statements had a discriminatory power greater than .5, thus they were all retained in the attitude scale.

A check on the reliability of the attitude scale was carried out with th split-half reliability technique (14). The entire scale was randomly separated into two parts, one composed of the odd statements, the other composed of the even. Each of the two sides was then treated as a new scale and correlated with a resulting $\rho = 0.77$. The Spearman-Brown Prophecy formula was applied, giving a high corrected reliability coefficient of 0.87 which indicated the scale was quite reliable (15).

The battery of individual attitude statements, having passed the internal consistency check and the test of reliability, was considered a useful instrument by which to assess attitudes toward education. For each individual, the sum total of all 15 statements was used as an indicator of attitude. The degree of attitude was designated by a number that is usually considered part

Table 1: Internal Consistency Check for Attitude Statements*

Item No.	Group	No. Cases	Score 1	2	3	4	5	Total (Score x No. checking that score)	High Score Minus Low Score	DP Difference-No. Cases
1	High	93	2	49	4	31	7	271	154	1.656
	Low	93	78	12	0	0	3	117		
2	High	93	6	76	8	3	0	194	91	0.978
	Low	93	84	8	1	0	0	103		
3	High	93	2	65	8	16	2	230	104	1.118
	Low	93	70	15	6	2	0	126		
4	Hifh	93	0	28	15	46	4	305	147	1.581
	Low	93	49	32	6	3	3	158		
5	High	93	9	81	0	3	0	183	89	0.957
	Low	93	92	1	0	0	0	94		
6	High	93	7	76	7	2	1	193	86	0.925
	Low	93	82	9	1	1	0	107		
7	High	93	5	85	3	0	0	184	86	0.925
	Low	93	88	5	0	0	0	98		
8	High	93	6	74	1	11	1	206	87	0.935
	Low	93	80	8	1	0	4	119		
9	High	93	3	70	11	9	0	212	110	1.183
	Low	93	87	5	0	0	1	102		
10	High	93	2	79	6	5	1	203	97	1.043
	Low	93	81	11	1	0	0	106		
11	High	93	1	81	2	7	2	207	66	0.710
	Low	93	70	14	0	2	7	141		
12	High	93	3	68	3	15	4	228	122	1.312
	Low	93	81	11	1	0	0	106		
13	High	93	5	71	10	7	0	205	101	1.086
	Low	93	83	9	1	0	0	104		
14	High	93	7	83	1	2	0	184	90	0.968
	Low	93	92	1	0	0	0	94		
15	High	93	4	85	3	1	0	187	77	0.828
	Low	93	76	17	0	0	0	110		

*If the discriminatory power (DP) is greater than 0.5, then the attitude statement was considered to be differentiating.

of a ratio interval scale, i.e. 1, 2, 3, 4, 5, ... However, for this measure of attitudes the numbers only indicated order of the degree of attitude and not equal interval, i.e. 1, 2, 3, 4, 5, with the distance between 1 and 2 and 3 and 4 and 5 not determined. The resulting attitude statement totals were treated as an ordinal scale.

Factors Influencing Attitude Toward Education

Place of residence, age, sex, social class, level of education, spatial mobility, and receivership of mass communication were treated as independent variables. The analysis of the association of the independent variables and the dependent variable was accomplished by the use of three types of statistical tests: chi square, Kendall's rank order correlation, and factorial analysis of variance. The chi square tests were employed when the independent variable scales were ordered. For the above two types of tests, the dependent variable was considered to be an ordinal scale. For the factorial analysis of variance the dependent variable was treated as an interval scale, although it was not designed as such. Dr. H. O. Hartley, Director of the Institute of Statistics, Texas A&M University, who was consulted frequently with regard to the analysis, suggested that factorial analysis of variance be utilized. When questioned concerning the use of the dependent variable as an interval scale, he stated that treating the scale as interval for purposes of the factorial analysis of variance would have little effect on the validity of the results.

ANALYSIS

Attitude Toward Education

The attitude scale had a range from 15 through 75 with 75 representing the end of the continuum where attitudes were least favorable toward education.

The midpoint of this scale was 45, which indicated that the person's attitude toward education was neither positive nor negative. No individual was interviewed who had an attitude score larger than 45. This indicated that the attitudes toward education were generally positive. The average attitude score for the urban, suburban, and rural samples was 26.5, 26.2, 27.7, respectively. As can be seen, attitudes toward education were slightly more positive in the urban and suburban areas than in the rural.

Simple Tests of Association

For the chi square tests the dependent variable was designated an ordinal scale with six categories: category 1 included those persons who had an attitude score of 15-19; category 2, 20-24; category 3, 25-29; category 4, 30-34; category 5, 35-39; category 6, 40-45. Even though the highest possible score was 75 (strongly disagree to all statements), in reality the highest score was 45. A frequency breakdown of these categories is as follows: 1 = 61, 2 = 74, 3 = 82, 4 = 126, 5 = 22, and 6 = 6. Due to the low frequency in category 6, it was necessary at times to combine it with category 5.

Place of residence variable

The independent variable, place of residence, was run against the dependent variable attitude toward education. The chi square test of association was used taking as the null hypothesis that no difference would occur among places of residence with respect to attitude toward education. The null hypothesis was rejected, indicating that there was significant association between place of residence and attitude toward education, Table 2.

Table 2: Classification of Individuals by Attitude Toward Education and Place of Residence with Chi Squares Computed for all Combinations of Place of Residence.

		Combinations of Place of Residence (stated in per cent)												
		Combination 1*				Combination 2**			Combination 3***			Combination 4****		
		Urban	Sub-urban	Rural	TOTAL	Urban	Sub-urban	TOTAL	Sub-urban	Rural	TOTAL	Urban	Rural	TOTAL
Attitude toward Education Scale by Intervals of 5	15-19	17	15	16	16	17	15	16	15	16	16	17	16	17
	20-24	19	25	18	20	19	25	21	25	18	21	19	18	18
	25-29	29	19	14	22	29	19	25	19	14	16	29	14	23
	30-34	29	37	39	34	29	37	32	37	39	38	29	39	33
	35-39	4	3	12	6	4	3	4	3	12	8	4	12	7
	40+	2	1	1	2	2	1	2	1	1	1	2	1	2
	TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100

*x^2 = 19.2611, P<0.05

**x^2 = 5.5979, P<0.40

***x^2 = 6.0172, P<0.40

****x^2 = 13.7332, P<0.025

A more complete "picture" of how place of residence was associated with attitude was desired. Three more chi square tests were run: (1) rural, (2) suburban and (3) urban place of residence against attitudes. These results indicated that between rural and suburban as well as suburban and urban there were no significant differences in attitudes. The difference between attitudes in rural and urban areas was significantly different. ($P < 0.05$) See Table 2.

Sex Variable

Sex was treated as a nominal scale since it is a dichotomy by nature. The chi square test of association was used and the null hypothesis read: no difference would occur between sexes with respect to attitudes toward education. Four separate chi squares were calculated for sex versus attitudes toward education for the whole sample and the three separate places of residence. The null hypothesis was not rejected with the exception of the urban sample, indicating that in the urban area there was a difference between sexes with respect to attitudes toward education, Table 3.

Age Variable

The remaining independent variables were treated as ordinal scales. Kendall's rank order correlations were calculated for the relationship of each variable to attitudes toward education.* By using the rank order correlation statistic, it was no longer necessary that the variables be categorized into groups. However, in one instance (receivership of mass communication) minor categorizations were made. It was necessary, due to the large numbers of ties occurring in the rankings, that the appropriate rank order correlation

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*For a further explanation of the use of Kendall's tau, see Appendix C.

Table 3: Classification of Individuals by Attitude Toward Education and Sex, Controlling for Place of Residence with Chi Squares Computed for Each Sample Area

Sample Area	Sex	Attitude toward Education Scale by Intervals of 5 (stated in per cent)					
		15-19	20-24	25-29	30-34	35+	TOTAL
All Combined	Male	20	19	20	34	7	100
	Female	14	21	23	34	8	100
	TOTAL	16	20	22	34	8	100
		$X^2 = 2.7917$, $P < 0.60$					
Urban Area	Male	33	k2	24	28	3	100
	Female	9	22	31	30	8	100
	TOTAL	17	19	29	29	6	100
		$X^2 = 15.9048$, $P < 0.005$					
Suburban Area	Male	14	31	10	42	3	100
	Female	16	22	22	35	5	100
	TOTAL	15	25	19	37	4	100
		$X^2 = 2.4919$, $p < 0.70$					
Rural Area	Male	9	20	20	38	13	100
	Female	21	17	10	40	12	100
	TOTAL	16	18	14	39	13	100
		$X^2 = 4.6409$, $P < 0.40$					

be used, i.e. Kendall's rank order correlation with large numbers of ties (16). The results that follow are positive unless otherwise stated. The null hypothesis read: no association would occur between the two variables; therefore $\tau = 0$. The rejection region for the null hypothesis was set at the < 0.05 level.

The independent variable age was correlated with the dependent variable for four separate samples--urban, suburban, rural, and all three combined. The resulting correlations (tau) were all very low, as well as not significant at the $P < 0.05$ level (see Table 4 for summary of the results of all rank order correlations). This indicated that the small amount of association found could have occurred by chance.

Social Class Variable

Social class was treated as ordinal since it is by definition a ranked scale. Tau was calculated for the urban sample, as this was the only sample area that contained all three social classes. The resulting correlation was relatively high*--0.16 ($P < 0.01$) indicating the higher the social class the more positive were attitudes toward education.

Level of Education Variable

Level of education obtained by the interviewee was signified by number of years of schooling completed. Correlations were calculated for education versus attitudes toward education for the four groupings, urban, suburban, rural, and all combined. The resulting taus were relatively high for the

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*It is important that the reader not be mislead by the terminology used here. The correlations that are considered high are so only with respect to the other correlations calculated. However, for Kendall's rank order correlation with large numbers of ties, tau is normally small even for high correlations.

Table 4: Kendall's Rank Order Correlation with Ties (Tau) for Independent Variables Versus Attitude Toward Education

Sample Area	Independent Variables				
	Spatial Mobility Tau	Social Class Tau	Age Tau	Receivership of Mass Comm. Tau	Educational Level Tau
TOTAL	-0.042, P<0.30	0.119, P<0.01	0.051, P<0.15	0.071, P<0.06	0.154, P<0.001
Urban	-0.136, P<0.02	0.163, P<0.01	0.080, P<0.13	0.134, P<0.01	0.217, P<0.001
Suburban	0.059, P<0.49	Lower Class	-0.041, P<0.57	0.027, P<0.75	0.177, P<0.03
Rural	0.011, P<0.89	Only in These 2 Areas	0.092, P<0.18	0.008, P<0.91	0.047, P<0.52

total sample--0.15 ($P < 0.001$); urban--0.21 ($P < 0.001$); and suburban--0.18 ($P < 0.03$). The tau for the rural sample was very low--0.05 ($P < 0.52$). These results indicated that as education increased, so did attitudes toward education with the exception of those living in the rural area.

Spatial Mobility Variable

The criterion for the degree of spatial mobility was taken as the number of times a person had changed his place of residence. The continuum ran from 0 through 5, as no one indicated more than five moves. Spatial mobility was correlated against attitudes toward education for urban, suburban, rural, and total sample. The resulting taus were low for the overall sample, suburban sample, and rural sample and were not significant at the $P < 0.05$ level. However, the urban sample had a tau of -0.13 ($P < 0.02$). The negative correlation indicated that as mobility increased, attitude toward education became less positive.

Receivership of Mass Communication Variable

The receivership of mass communication variable was an indication of the total number of hours the interviewee listened to radio and/or watched television each month. The total number of receiving hours was divided into the following categories: category 1, did not receive any; category 2, 1-30 hours per month; category 3, 31-60 hours per month; etc., to category 18, 481 and more hours per month. These categories were treated as an ordinal scale with media receivership correlated against attitudes toward education for the four sample divisions. The resulting taus were low for all cases except the urban sample, which had a tau of 0.13 ($P < 0.01$). These results suggested that as listening time increased, attitudes toward education became more positive for those living in the urban area.

Factorial Analysis of Variance

The factorial structure of the data permitted the isolation of the variability due to the individual factors, as well as an estimation of the interactions (departure from additive action), using the analysis of variance procedure. Significant interactions indicate that the effects of a factor may vary according to the particular combination of other factors in a particular relationship (17).

Due to the nature of the data there were some empty cells and unequal numbers in the cells. Therefore, the analysis was considered as a least squares problem. Fortunately, a computer program designed to handle the factorial analysis of variance with disproportionate subclass numbers was available.*

In preparation for the analysis of variance, the independent variables or factors were tabulated as follows: (1) sex had two levels, male and female; (2) social class had two levels, upper class and middle class combined, and lower class; (3) place of residence had three levels, urban, suburban, and rural; (4) spatial mobility had three levels, no moves, one move, and two or more moves; (5) educational level had four levels, 0 years education completed, 1-3 years education completed, 4-8 years education completed, 9+ years education completed; (6) receivership of mass communication had four levels, received 0 hours per month, 1-100 hours per month, 101-200 hours per month, and 201+ hours per month and (7) age had five levels, less than 25 years, 25-34 years, 35-44 years, 45-54 years, and 55+ years. The dependent variable or response variable was attitudes toward education. Analysis using the full model

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*An example of the model fitted is given in Appendix C.

including all factors with all possible interactions was not feasible as there were a total of 2,880 possible cells, while there were only 371 observations available in the sample. Therefore, three factors were chosen for analysis and the factorial model fitted. The reduced model included place of residence, educational level, age, and all of their possible interactions (plus the response variable attitudes toward education). No significant ($P < 0.05$) main effects or interactions were registered by this analysis (see Appendix, Table 9). It was noticed, however, that the coefficient of variation was rather large (28 per cent) which suggested that a transformation of the response variable was desirable. The transformation selected was the $\log_{10}$ (75 - attitude score). The distribution of attitude scores was skewed to the left. By subtracting the attitude score from 75 (the highest possible attitude score), the curve was skewed to the right, and the $\log_{10}$(75 - attitude) transformation produced an approximately symmetric distribution.

The same factors were again fitted and the resulting F ratios for main effects and interactions were still not significant ($P < 0.05$). The coefficient of variation had dropped to a respectable level (3.45 per cent), so it was concluded that the transformation had served its purpose.

The next step was to analyze another combination of factors using the log transformation of the response variable. The new model to be fitted included social class, place of residence, educational level, and receivership of mass communication and all relevant interactions. None of the resulting F ratios were significant ($P < 0.05$) for either main effects or interactions, Appendix, Table 10.

At this point it was decided that simple one-factor analysis of variance would be run for all variables. The results indicated that social class and educational level were the only variables which had any real effect on attitudes toward education, i.e., the hypothesis that $\mu 1 = \mu 2 = \mu 3 \ldots \mu 4$ was rejected ($P < 0.05$), Table 5. These results were in keeping with those found by the tests of association presented earlier. It also appeared from the tests of association that interactions might be found between place of residence and the factors sex, spatial mobility, educational level, and receivership of mass communication. With this in mind, five separate two-factor models (including two-factor interaction) were fitted for the combinations place of residence and sex, place of residence and spatial mobility, place of residence and educational level, place of residence and receivership of mass communication, and place of residence and age. None of the resulting F ratios was significant ($P < 0.05$) for either main effects or interactions, Appendix, Table 11.

The factorial analysis of variance added little to the overall analysis of data with the exception that is suggested there were no significant interactions among variables.

Analysis Summary

The average attitude toward education was found to be positive--26.8 with the most negative attitude being 45, the midpoint on the attitude scale. As an aid in summarizing the overall analysis, Table 6 was prepared. This table shows the attitude scale broken into six categories with each independent variable averaged for the six categories. The averages were calculated for urban, suburban, rural, and all areas combined. The independent

Table 5: Single Factor Analysis of Variance for Each Independent Variable--Main Effects Only

Source of Variation	Degrees of Freedom	Mean Square	F Ratio	Significance at P <0.05
Social Class	1	0.0266550	8.02	S
Within	369	0.0033239	--	
TOTAL	370	0.0033870	--	
Sex	1	0.0015143	0.45	NS
Within	369	0.0033921	--	
TOTAL	370	0.0033870	--	
Educational Level	3	0.0143941	4.36	S
Within	367	0.0307634	--	
TOTAL	370	0.0033870	--	
Age	4	0.0032675	0.96	NS
Within	366	0.0031413	--	
TOTAL	370	0.0033870	--	
Rec. Mass Media	3	0.0078768	2.33	
Within	367	0.0021677	--	
TOTAL	370	0.0033870	--	
Spatial Mobility	2	0.0087430	2.64	NS
Within	368	0.0057653	--	
TOTAL	370	0.0033870	--	
Place of Residence	2	0.0056806	1.68	NS
Within	368	0.0033745	--	
TOTAL	370	0.0033870	--	

Table 6: Average of the Independent Variables by Attitude Toward Education

Independent Variables	Attitude Toward Education Scale Intervaled by 5					
	Positive End				Less Positive End	
	15-19	20-24	25-29	30-34	35-39	40-45
Educational Level (mean years completed)						
Total Sample	4.7	4.4	3.4	2.7	2.1	1.7
Urban Area	5.8	6.4	3.5	3.2	2.4	2.5
Suburban Area	3.0	2.5	3.3	1.9	1.0	0.0
Rural Area	2.2	3.3	3.1	2.5	2.2	0.0
Age (mean years)						
Total Sample	36.5	34.1	38.4	37.3	38.6	40.5
Urban Area	47.2	48.1	36.3	40.1	52.0	85.0*
Suburban Area	35.9	35.9	39.5	43.1	35.9	40.0
Rural Area	38.8	40.0	38.2	40.0	38.9	47.8
*Actual age of one person						
Rec. of Mass Media (mean hours received)						
Total Sample	139.5	165.9	141.9	126.5	90.0	37.5
Urban Area	147.9	157.8	227.6	169.1	80.0	75.0
Suburban Area	138.5	94.7	137.0	152.2	88.8	0.0
Rural Area	141.1	145.1	158.8	146.4	88.0	37.5
Spatial Mobility (mean number of moves)						
Total Sample	0.9	0.9	1.3	1.3	1.6	3.0
Urban Area	0.2	0.4	0.5	0.4	0.0	0.0
Suburban Area	0.7	0.6	0.7	0.6	0.6	2.0
Rural Area	0.7	0.7	1.0	0.8	0.8	2.3

Sample Area	Average Attitude Toward Education				
	Sex		Social Class		
	Male	Female	Upper	Middle	Lower
Total Sample	25.2	27.2	--	--	--
Urban Area	26.1	26.3	25.4	23.6	27.2
Suburban Area	28.3	27.3	--	--	26.2
Rural Area	26.4	27.0	--	--	27.7

variables found to be significantly associated with attitudes toward education are presented in Table 7. The reader should notice the trends in Table 6 and how they imply the results indicated by the statistical tests, Table 7. The results of the overall analysis indicated that attitudes toward education differ somewhat, depending on whether the interviewee lived in the urban, suburban, or rural areas.

Table 7: Independent Variables Associated with Attitude Toward Education ($P < 0.05$)

Independent Variable	Sample Area	Test Result
Place of Residence	Total Sample	$X^2 = 19.2611$, DF = 10
Sex	Urban Sample	$X^2 = 15.9048$, DF = 4
Educational Level	Urban Sample	$\mu = 0.217$
Educational Level	Suburban Sample	$\mu = 0.177$
Educational Level	Total Sample	$\mu = 0.154$
Rec. of Mass Commun.	Urban Sample	$\mu = 0.134$
Spatial Mobility	Urban Sample	$\mu = -0.136$
Social Class	Urban Sample	$\mu = 0.163$
Social Class	Total Sample	ANOVA, F = 7.70, DF (1,369)
Educational Level	Total Sample	ANOVA, F = 4.27, DF (3,367)

Within the urban area the following variables were found to be associated with attitudes toward education: sex, educational level, receivership of mass communication, spatial mobility, and social class. For the suburban area, the only independent variable found to be associated with attitudes toward education was educational level. In the rural area, no independent variable

was found to be significantly associated with attitudes toward education. For the total sample, place of residence, educational level, and social class were significantly associated with attitudes toward education.

Conclusions and Implications

The conclusions drawn here are limited by the nature of the population studied, that is, to the people living in a 600-square mile area including the city of Santiago, Dominican Republic.

Attitudes Toward Education

On the basis of the data obtained, it can be concluded that generally attitudes toward education were positive. The absence of negatively oriented attitudes toward education was surprising, as it was expected that in the Dominican Republic, certain segments of the population would have a somewhat negative orientation toward education, i.e. the rural segment. A possible explanation for the generally positive orientation is that a relatively high value of education was engendered through the mass media. Moreover, during the 30-year reign of the dictator Trujillo (1931-1961), various development programs were initiated including a program for education of the masses. Even though the program was generally unsuccessful, it is suspected that to some extent a relatively high value came to be attached to the notion of education, and thus may account in part for the positive attitude toward education. The positive attitude toward education found in the Dominican Republic would normally be expected of a relatively modern society.

Place of Residence

General theory suggests that in a traditional or more traditional society where the areas urban, suburban, and rural usually show marked dissimilarities, attitudes toward education would also differ. It is suggested that even though the statistical tests showed that attitudes toward education do vary according to place of residence, these differences were not sufficiently great to warrant definite sociological conclusions. The percentage distributions shown in Table 2, as well as the fact that no differences were found in attitudes from the suburban to urban areas and suburban to rural areas, suggest that variations are fairly minor. Nevertheless, attitudes toward education in the Dominican Republic approach what would be expected in a relatively modern society. This finding is not congruent with the position the Dominican Republic was given on the traditional-modern continuum. One explanation for this seemingly inconsistent result is found in developments which influenced the urban area. For the most part, the lower class strata sampled in the urban area proved to be recent migrants from the rural and suburban areas.* These people made up a large portion of the urban sample. It is suspected that their attitudes toward education were not as positive as their lower class counterparts who had always lived in the urban area. The composition of the urban sample, in effect, probably reduced the overall attitude toward education for the urban area by diluting what might have been an even stronger

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*Before the death of Trujillo in 1961, no one was allowed to move without a permit. Therefore, a recent migration has taken place to the urban area.

positive attitude toward education. It is possible that in the Dominican Republic, attitudes toward education would vary considerably with respect to place of residence if recent migrants to the urban area were controlled for. However, the large migration of people to the urban area is also evidence that the society may be becoming more modern, i.e. urbanization of large numbers of rural people. Therefore, it is proposed that with regard to attitudes toward education, the Dominican Republic was definitely in a state of transition and was working toward a modern society. The seeming inconsistency expressed earlier was a result of the rapid modernization taking place with respect to education while other social systems remained fairly traditional in orientation.

Sex

In traditional societies, sex is usually found to be one of the few factors that differentiate within that society. It was expected that this would also be the case in the Dominican Republic. Nevertheless, it was found that attitude toward education differed along sex lines in the urban area only. This unexpected result could be produced by the presence of a very abstract concept of education in suburban and rural areas. Persons who had some formal education or contact with a source that related meaningful information about education (18) might react differently toward experience while the reaction of large groups of people might be quite similar toward an abstract quality. As it turned out, the average level of education in the suburban and rural area was quite low (approximately three years). For these areas no difference existed in attitudes toward education along sex lines probably because neither sex had significantly more education, often none, nor contact with meaningful sources of information.

In the urban area the incidence of education was greater, as well as possibilities for contact with meaningful sources of information concerning education. The males, having higher educations than the females, along with the greater possibility of frequent contact with sources of information, had more positive attitudes toward education. For both sexes in the urban area, the concept of education was probably more concrete.

Age

It was concluded that the variable age was not significantly associated with attitudes toward education. As age varied, attitudes toward education either did not vary or varied in no set pattern. This result might imply that in a traditional or more-traditional society, age variations do not have the same meaning that they might have in a more complex or modern society where it would be expected that attitudes would vary from generation to generation, depending on multiple circumstances (commonly referred to as the "generation gap"). For a traditional society where social systems along with norms and values remain fairly static over extended periods of time, attitudes may change only slightly.

Social Class

It was concluded that as social class became higher, attitudes toward education became more positive. Theory suggests that this occurs in both traditional and modern societies. Higher social echelons normally have available to them the norms, values, and avenues into social systems that influence attitudes toward education in a positive direction.

Level of Education

It was concluded that as educational level increased in the urban and suburban areas, attitudes toward education became more positive. The correlation between level of education and attitudes toward education was high for both the urban and suburban areas with no significant association in the rural area. The absence of a significant relationship in the rural area could be taken as an indication that little differentiation occurred with respect to attitudes toward education or level of education. Very little differentiation is normally found other than along sex lines in the rural areas of traditional or more-traditional societies.

For the urban and suburban areas, a possible implication is that those people who had attained fairly high educational levels held correspondingly high attitudes toward education. Those with little or no education held correspondingly lower attitudes toward education.

Receivership of Mass Communication

It was concluded from the analysis that as receivership of mass communication increased, attitudes toward education in urban areas became more positive. In the urban area, mass media receivers had been present for several years, but were relatively new in the suburban and rural areas. The establishment of the media as a reliable source of information with the listeners (19) in the urban areas probably influenced the attitudinal pattern. The more a person listened to media, which he accepted as reliable, the greater chance he had of assimilating bits and pieces of information that may have influenced his attitude toward education in a positive way.

Spatial Mobility

It was concluded that as spatial mobility increased, attitudes toward education in urban areas became less positive. For a modern society, the result would probably be reversed. In a traditional or more-traditional society, this result, even though unexpected, implies that an individual moving from place to place has trouble becoming assimilated into local society and local educational systems. Lack of acceptance may cause a certain amount of dissonance, which could be reduced by acceptance of a more negative attitude toward education and other aspects of the social system. In the suburban and rural areas where the people are fairly immobile, no association was found between spatial mobility and attitude toward education.

Transitional Society

The Dominican Republic was initially placed as a transitional society near the traditional end of the traditional-modern continuum. With respect to attitudes toward education and changes occurring in places of residence, the Dominican Republic exhibited some tendencies characteristic of a relatively modern society. The conclusions and implications concerning the other variables - sex, age, social class, level of education, receivership of mass communication, and spatial mobility - supported the classification of the Dominican Republic as a traditional society.

Further Implications for Research

The results presented, relating the seven independent variables to attitudes toward education, provide a descriptive base and body of knowledge upon which future research may be structured. If such a base had been

available prior to the present study, the researchers might have narrowed the field of investigation to specific functional aspects of attitudes toward education. At best, research designed for broad, inclusive descriptive purposes can provide only speculative theoretical implications.

More extensive research taking into account recent migration to the urban areas is needed before attitudes toward education in such areas could be adequately appraised. An in-depth study is needed to assess the reasons why only minor variations occur in attitudes toward education with respect to place of residence.

By studying attitudes toward other objects or situations such as technical change in agriculture, medical care, sanitation, fertility, and a host of others, a fairly accurate assessment of where the Dominican Republic falls on the traditional-modern continuum could be established relative to attitudinal patterns. If this same procedure were carried out cross-culturally, then some general criteria could be established which would indicate the relative development of a society in terms of attitudes toward certain objects or situations. This information could then be used to supplement the now existing characteristics that are used to place a society on the traditional-modern continuum. It is suspected that limited characteristics such as those set forth by Rogers give a somewhat oversimplified notion of the development process in a given society. The addition of attitudinal variables would provide another dimension for classification of societies along a traditional-modern continuum.

For future research concerning age and attitudes toward education, it is recommended that younger people (less than 15 years of age) also be

interviewed. As the Dominican Republic becomes more modern, differentiation can probably be expected to occur along age lines, especially among the younger group (less than 20, for example) and the older individuals.

The relationship between spatial mobility and attitudes toward education provides a significant subject for future research. The instrument for measuring spatial mobility probably should include considerably more than the number of places a person has lived. It is believed that other indicators of spatial mobility coupled with broader information concerning them would provide a better index for the influence that spatial mobility has on attitudes toward education.

Receivership of mass communication as a variable in this research was restricted to asking for the total number of hours that the media was received by the interviewee and may have been a very poor index of how much the interviewee actually heard and comprehended what was being relayed. For future use of this variable, it would be helpful to determine what particular programs and advertisements as well as what stations were favorite ones. Whether an individual views the sources of information as reliable or not affects the influence of contact with them on his attitudes. Such considerations incorporated into an index might give a better indication of the association between receivership of mass communication and attitudes toward education.

FOOTNOTES

1. MOSHER, A. T. Getting agriculture moving. New York, Frederick A. Prager, 1966. pp. 123-140.

2. SECORD, PAUL F. & BACKMAN, CARL W. Social psychology. McGraw-Hill Book Company, New York, 1964. pp. 327-332.

3. LERNER, DANIEL. The passing of traditional society. New York, The Free Press of Glencoe, 1964. p. 145.

4. ROGERS, EVERETT M. Diffusion of innovations. New York, The Free Press of Glencoe, 1962. p. 60.

5. Ibid., p. 61.

6. KAHL, JOSEPH. Centro latinoamericano de investigaciones en ciencias sociales. St. Louis, Washington University, 1963. (questionnaire)

7. JONES, EARL: OCANDO, LUIS & GUEVARA, JUAN. Bailadores: an agrosocial study of a rural Venezuelan region. Caracas, Instituto Caribe de Antropologia y Sociologia, 1964. 192 pp.

8. ATAL, MANUEL; CORREA, GERMAN & LAWRENCE, EDUARDO. Algunos aspectos relativos a la decision de migrar y a la integracion urbana de migrantes en poblaciones marginales del Gran Santiago. Santiago, Universidad de Chile, 1966. 187 pp.

9. CLIFFORD, ROY A. & RAMSAY, JORGE. Liderazgo en La Manga. San Jose, Costa Rica, Instituto Interamericano de Ciencias Agricolas de la OEA, 1962. 74 pp.

10. HAVINGHURST, ROBERT J. & NEUGARTEN, BERNICE L. Society and education. Boston, Allyn & Bacon, 1967. p. 41.

11. LIKERT, RENSIS. The method of constructing an attitude scale. in FISHBEIN, MARTIN (ed) Readings in attitude theory and measurement. New York, John Wiley & Sons, 1967. pp. 90-91.

12. GOODE, WILLIAM J. & HATT, PAUL K. Methods in social research. New York, McGraw-Hill, 1952. p. 273.

13. LIKERT, RENSIS, op. cit. p. 276.

14. Ibid., p. 236.

15. WERT, JAMES E.: NEIDT, CHARLES O. & AHMANN, J. STANLEY. Statistical methods in educational and psychological research. New York, Appleton-Century-Crofts, 1954. p. 332.

16. KENDALL, MAURICE G. Rank correlation methods. London, Charles Griffin, 1955. pp. 34-66, pp. 652-655.

17. BEALER, ROBERT C. Variable research in rural sociology: some suggestions for needed implementations. Paper presented at Rural Sociological Society Meeting, August, 1959. Ithaca, New York, Cornell University.

18. KRECH, DAVID: CRUTCHFIELD, R. S. & BALLACHEY, E. L. Individual in society. New York, McGraw-Hill, 1962. p. 186.

19. Ibid., p. 188.